

Shovel Logging in the Gulf Coastal Plain

Issue: In the US shovel logging is used most commonly in the Northwest and the Southeast. In the Northwest shovel logging is sometimes used as an alternative to cable logging. Shovel logging is used in the Southeast in areas where access by traditional ground-based systems is restricted due to wet conditions. In these areas, typically hardwood bottoms, mats are constructed from felled trees for access by the transport equipment. The mats are then de-constructed at the end of the harvest as the shovel works its way out of the stand.



Study Description: The study site was located in Escambia County, Florida on land owned by Swift Lumber Company in Atmore, Alabama. The stand was a mixture of pine and hardwood with 275 trees/acre on predominately flat terrain. Volume per acre averaged 268 tons with a quadratic mean diameter of 12.8 inches. Products included pine saw-timber, pine pulpwood, plywood logs, hardwood saw-timber, and hardwood pulpwood. Felling was performed with a Tigercat 845B tracked feller-buncher powered by a Cummins 6CTA 8.3 liter 230 hp engine and equipped with a Tigercat 5700 head that utilized a 22-inch circular saw. Trees were shoveled to the mat with a Tigercat S860 shovel powered by a Cummins 6CT 8.3 liter 260 hp engine and equipped with 24-in wide tracks. A Tigercat 640 clambunk skidder was used to transport trees from woods to landing. This machine was powered by a Cummins 6CT 8.3 liter 240 hp engine, was mounted on dual tires all around and utilized a 32-ft² inverted grapple.

Status: Data have been summarized and a report is currently in review to be published in the 2002 COFE Proceedings. System rate was 31 tons/SMH with a system cost of \$258/SMH. Unit cost was \$8.26/ton.

Benefits:

- *Determine productivity and cost of each function in the system*
- *Determine overall system rate and cost*
- *Provide information on operational parameters and limits*

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